Electronic Version
Stylesheet Version v1.1.1

Automatic Lockset Tamper Detection Device and Method

Abstract

A device for detecting tampering with standard mechanical locksets has a pair of electrical contacts placed within the recess that receives lock's bolt. These contacts provide an electrical connection to the bolt and hence the entire lockset when the bolt is in its extended or locked position. The two contacts are connected to individual conductors in a cable that also has a third conductor positioned to run vertically along the door frame below the bolt receptacle. All three conductors merge in a short horizontal run of cable to a control box secured to an interior door frame or wall. The control box sends a low-level radio frequency (RF) signal to the first contact that in turn energizes the entire lockset when the bolt is in its extended position. The second contact returns RF energy to the control box to signal that the bolt is in its extended or locked position. The third conductor is connected to circuit common and used to measure capacitance between energized conductors and circuit common. Measured changes in capacitance, in conjunction with control box logic, serve to automatically enable

tamper detection when the lockset is in its locked position. Further, to automatically signal an alarm when the locked lockset is tampered with and to automatically disable tamper detection when the lockset is in its unlocked position. The doors and other portals of entry or exit secured with this lockset tampering detection device serve to define one or more protected areas whose status may then be signaled through conventional multi-zone security systems.